

## 8-1: Composition of Functions

*Activity:* Choose a sticker price OVER \$10,000. How much will you pay if:

a. the rebate is given first, and then the discount?

b. the discount is given first, and then the rebate?

*Example 1:*  $r(x) = x - 500$  and  $d(x) = \frac{3}{4}x$ .

a. Find a formula for  $d(r(x))$ .

b. Evaluate  $d(r(x))$  for  $x = 4500$ .

*Composite  $g \circ f$*

*Example 2:*  $f(x) = 2x - 1$ ,  $g(x) = \frac{1}{x}$

a.  $f(g(5))$

b.  $g(f(5))$

Example 3:  $p(x) = x^2$ ,  $q(x) = -x + 1$

a.  $p \circ q(x)$

b.  $q \circ p(x)$

c.  $q \circ q(x)$

Example 4:  $g(x) = \frac{1}{2x-1}$ ,  $f(x) = x + 2$

Find the domain of  $g \circ f$ .

Homework:

"Anyone who takes himself too seriously always runs the risk of looking ridiculous; anyone who can consistently laugh at himself does not." - Vaclav Havel